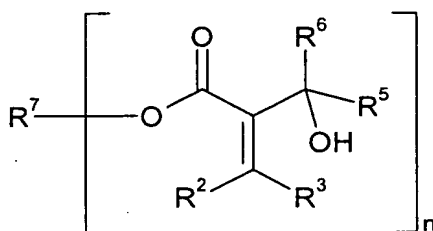


## Claims

1. A coating composition comprising
  - at least one  $\alpha$ -(1'-hydroxyalkyl)acrylate (A) and
  - at least one photoinitiator (P).
2. The coating composition according to claim 1, further comprising
  - at least one reactive diluent and/or
  - at least one polyfunctional polymerizable compound.
3. The coating composition according to claim 1 or 2, further comprising
  - at least one compound (B) containing at least one hydroxy (-OH)-reactive group.
4. A method of coating substrates, wherein a coating composition according to any one of claims 1 to 3 is used.
5. A substrate coated with a coating composition according to any one of claims 1 to 3.
6. A compound of the formula (V),



(V)

in which

R<sup>2</sup> and R<sup>3</sup> independently of one another are C<sub>1</sub>–C<sub>18</sub> alkyl, C<sub>2</sub>–C<sub>18</sub> alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, C<sub>2</sub>–C<sub>18</sub> alkenyl, C<sub>6</sub>–C<sub>12</sub> aryl, C<sub>5</sub>–C<sub>12</sub> cycloalkyl or a five- to six-membered oxygen-, nitrogen- and/or sulfur-containing heterocycle, it being possible for each of the stated radicals to be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles,

R<sup>2</sup> and/or R<sup>3</sup> are/is additionally hydrogen, C<sub>1</sub>-C<sub>18</sub> alkoxy optionally substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles, or -COOR<sup>4</sup>,

$R^2$  may additionally together with  $R^1$  form a ring, in which case  $R^2$  can be a carbonyl group, so that the group  $\text{COOR}^1$  and  $R^2$  together form an acid anhydride group  $-(\text{CO})-\text{O}-(\text{CO})-$ ,

5  $R^4$  is  $\text{C}_1-\text{C}_{18}$  alkyl,  $\text{C}_2-\text{C}_{18}$  alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups,  $\text{C}_2-\text{C}_{18}$  alkenyl,  $\text{C}_6-\text{C}_{12}$  aryl,  $\text{C}_5-\text{C}_{12}$  cycloalkyl or a five- to six-membered oxygen-, nitrogen- and/or sulfur-containing heterocycle, it being possible for each of the stated radicals to be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles,

15  $R^5$  and  $R^6$  independently of one another are hydrogen,  $\text{C}_1-\text{C}_{18}$  alkyl,  $\text{C}_2-\text{C}_{18}$  alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups,  $\text{C}_2-\text{C}_{18}$  alkenyl,  $\text{C}_6-\text{C}_{12}$  aryl,  $\text{C}_5-\text{C}_{12}$  cycloalkyl or a five- to six-membered oxygen-, nitrogen- and/or sulfur-containing heterocycle, it being possible for each of the stated radicals to be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles, or may together form a ring,

20  $n$  is a positive integer from 3 to 10, and

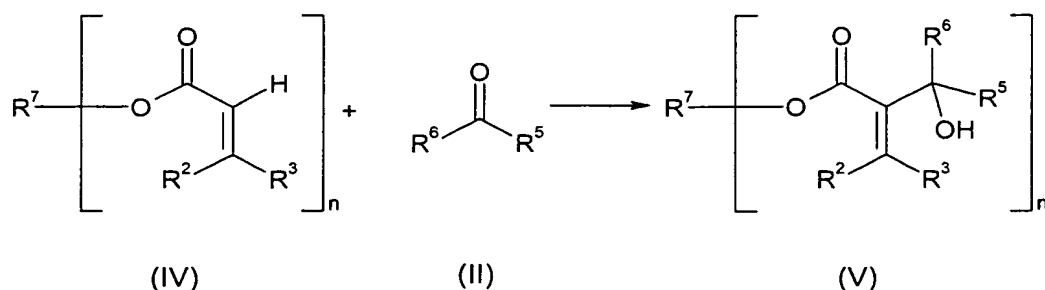
$R^7$  is an  $n$ -valent organic radical having 1 to 50 carbon atoms which can be unsubstituted or substituted by halogen,  $\text{C}_1-\text{C}_8$  alkyl,  $\text{C}_2-\text{C}_8$  alkenyl, carboxyl, carboxy- $\text{C}_1-\text{C}_8$  alkyl,  $\text{C}_1-\text{C}_{20}$  acyl,  $\text{C}_1-\text{C}_8$  alkoxy,  $\text{C}_6-\text{C}_{12}$  aryl, hydroxyl or hydroxy-substituted  $\text{C}_1-\text{C}_8$  alkyl and/or can contain one or more  $-(\text{CO})-$ ,  $-\text{O}(\text{CO})\text{O}-$ ,  $-(\text{NH})(\text{CO})\text{O}-$ ,  $-\text{O}(\text{CO})(\text{NH})-$ ,  $-\text{O}(\text{CO})-$  or  $-(\text{CO})\text{O}-$  groups.

7. The compound according to claim 6, wherein  $n$  is 3 or 4 and

30  $R^7$  is derived from an  $n$ -hydric alcohol by removing  $n$  hydroxyl groups,

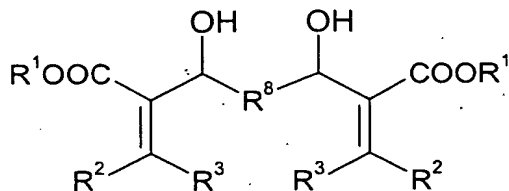
the  $n$ -hydric alcohol being trimethylolpropane, pentaerythritol or a singly to virgintuply ethoxylated trimethylolpropane.

35 8. A process for preparing a compound of the formula (V)



as defined in claim 6, it being possible for n to be additionally 2, wherein the compound (II) is an aldehyde  $R^5\text{-CHO}$  and is used in free form so that in formal of the formula  $(R^5\text{-CHO})_w$ , in which w is a positive integer, w is  $\leq 20$ .

- 5 9. The use of  $\alpha$ -(1'-hydroxyalkyl)acrylates in coating compositions for dual-cure applications.
10. The use of compounds of the formula (V) as defined in claim 8 or (VII)



(VII)

in which  $R^2$  and  $R^3$  are as defined in claim 6,

$R^1$  is  $C_1\text{--}C_{18}$  alkyl,  $C_2\text{--}C_{18}$  alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups,  $C_2\text{--}C_{18}$  alkenyl,  $C_6\text{--}C_{12}$  aryl,  $C_5\text{--}C_{12}$  cycloalkyl or a five- to six-membered oxygen-, nitrogen- and/or sulfur-containing heterocycle, it being possible for each of the stated radicals to be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles, and

$R^8$  is unsubstituted or halogen-,  $C_1\text{--}C_8$  alkyl-,  $C_2\text{--}C_8$  alkenyl-, carboxyl-, carboxy- $C_1\text{--}C_8$  alkyl-,  $C_1\text{--}C_{20}$  acyl-,  $C_1\text{--}C_8$  alkoxy-,  $C_6\text{--}C_{12}$  aryl-, hydroxyl- or hydroxy-substituted  $C_1\text{--}C_8$  alkyl-substituted  $C_6\text{--}C_{12}$  arylene,  $C_3\text{--}C_{12}$  cycloalkylene or  $C_1\text{--}C_{20}$  alkylene or is  $C_2\text{--}C_{20}$  alkylene interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups and/or by one or more  $\text{-(CO)-}$ ,  $\text{-O(CO)O-}$ ,  $\text{-(NH)(CO)O-}$ ,  $\text{-O(CO)(NH)-}$ ,  $\text{-O(CO)-}$  or  $\text{-(CO)O-}$  groups or is a single bond

in radiation curing.